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**Notice of Allowability**

Application No.

10/788,512

Examiner

Brian Goldberg

Applicant(s)

BHATTACHARJYA ET AL.

Art Unit

2861

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 2/27/2004.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>2/27/2004</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

***Allowable Subject Matter***

1. Claims 1-21 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art does not disclose or suggest "designing an array of  $S_r \times S_c$  distinct rank elements...designing at least one matrix  $P_{ijn}$ ...wherein  $P_{ijn}$  satisfies the constraint  $\sum_n P_{ijn} = K$ , where  $K$  is an integer great than or equal to 1...the values of  $P_{ijn}$  being determined based on  $n$ ,  $S_c$ ,  $S_r$  and  $N$ ...and on parameters and properties of the print head and on the properties of the ink and output medium" in combination with the remaining claim elements as set forth in claims 1, 10, and 13 and the related dependent claims. Also, the prior art does not disclose or suggest "designing an array of  $S_r \times S_c$  distinct rank elements...designing at least one matrix  $P_{ijn}$ ...wherein  $P_{ijn}$  satisfies the constraint  $\sum_n P_{ijn} = K$ , where  $K$  is an integer great than or equal to 1...the values of  $P_{ijn}$  being determined based on a set of feasible locations maintained in a corresponding, periodically updated, binary-valued array  $F_{ijn}$  that is based on constraints resulting from parameters and properties of the print head and on the properties of the ink and the output medium" in combination with the remaining claim elements as set forth in claims 6 and 18 and the related dependent claims.

***Conclusion***

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3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Askeland et al. state that "pixel locations are conveniently visualized as being small ink droplet receiving areas grouped in [an N X M] matrix array" but fail to disclose the detailed parameters of the matrix as set forth above. Also, Schloeman et al. disclose "a programmable nozzle firing order controller" to control nozzle firing sequence, but fails to disclose the array and matrix as set forth above.

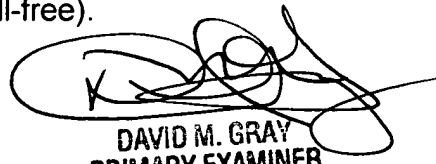
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on 571-272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DAVID M. GRAY  
PRIMARY EXAMINER

BJG